



International Filter Products

Revolutionary systems for your industry

C-Flex® 072 TPE Tubing

C-Flex® is the original patented thermoplastic elastomer (TPE) tubing specifically designed to meet the critical demands of pharmaceutical and biopharmaceutical applications for fluid processing with an excellent heat seal and sterile weld capabilities. For over 30 years, C-Flex® has been the thermoplastic elastomer (TPE) tubing most widely used and validated by the world's leading pharmaceutical and biopharmaceutical companies. Each coil of C-Flex® tubing is extruded to precise ID and wall dimensions. C-Flex® 072 is opaque tubing for light sensitive applications, offering the widest range of formulations and sizes in the industry. C-Flex® tubing has a secure global supply chain with redundant manufacturing sites in the United States and Europe with validated manufacturing processes.



C-Flex® comes in a wide variety of sizes and formulations.

C-Flex® 072 has opaque appearance for light-sensitive applications.

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Application

- Aseptic Sealing Disconnections
- Aseptic Welding Connections
- Ideal For Use in Single-Use Assemblies
- Peristaltic Pump
- Cell Culture Operations
- Acid & Base
- Tubing and Bags Manifolds
- Single-Use Fluid Transfer Sets
- Buffer and Media Preparation

Technical Data Sheet

Features and Benefits:

- ❖ Sealable and weldable either pre-or post-sterilization.
- ❖ Sterilizable by gamma irradiation and autoclave.
- ❖ Moldable, bondable, and formable for single-use assemblies and over molds.
- ❖ Temperature range -67°C to 135°C (-85°F to 275°F).
- ❖ Significantly less permeable than silicone.
- ❖ All formulas are Animal-Derived Component Free.
- ❖ All-inclusive Validation Guide and the Regulatory Information Overview (RIO) are available for customers upon request.

Chemical Resistance:

Chemical Type	C-Flex Compatibility
Acids, Dilute/Weak	Excellent
Acids, Strong/Concentrated	Excellent
Bases, Dilute/Weak	Excellent
Bases, Strong/Concentrated	Excellent
Salts	Excellent
High-purity Water	Excellent

Note: A comprehensive chemical compatibility chart is available upon request.

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When some chemical types are not suitable, safe, or chemically compatible with C-Flex, Saint-Gobain offers alternative tubing series. Below, you will find chemicals that are incompatible with C-Flex and the suggested alternative Saint-Gobain tubing series:

Chemical Type	Alternative Saint-Gobain Tubing Series
Alcohol	<ul style="list-style-type: none"> i. Sani-Tech ii. PharmaPure iii. PharMed BPT iv. PharmaFluor FEP
Oil / Water Emulsion	<ul style="list-style-type: none"> i. Sani-Tech ii. PharmaFluor FEP
Low Spallation Peristaltic Pump Tubing	<ul style="list-style-type: none"> i. PharmaPure
Biocompatible Peristaltic Pump Tubing	<ul style="list-style-type: none"> i. PharMed BPT
Ketones and Organic Solvent	<ul style="list-style-type: none"> i. PharmaFluor FEP

Physical Properties:

Property	ASTM Method	Formulations Value
Appearance	-	Opaque
Durometer, Shore A	D2240	60
Tensile Strength, psi	D412	1196
Elongation, %	D412	862
Tensile Modulus, @100%/300%, psi	D412	247/389
Tensile Set @ 300% Stretch	D412	26
Compression Set Constant Deflection "B" (22hrs @ 70°C), %	D395	86
Brittle Point, °C	D746	-68

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Sterilization Methods:

Autoclavable One time 30-minute cycle at 121°C

Gamma Irradiation One time up to 40 kGy

Note: C-Flex tubing will deteriorate with repeated autoclaving. Radiation is the recommended method of sterilization for all C-Flex thermoplastic materials.

Regulatory Compliance (Biocompatibility, Physicochemical & Extractable Testing):

Summary of Results: 072 - Translucent		
Method Description	Reference Standard	Result
Ames Genotoxicity	ISO 10993-3	Passed
Hemolysis – Indirect Contact	ISO 10993-4	Passed
<i>In Vitro</i> Cytotoxicity	ISO 10993-5	Passed
Systemic Toxicity - Rabbit Pyrogen (Material Mediated)	ISO 10993-11	Passed
Sterility Test: Bacteriostasis & Fungistasis	USP <71>	Passed
LAL Gel Clot Endotoxin	USP <85>	Passed
Biological Reactivity Tests, In-Vitro	USP <87>	Passed
Class VI Plastics - Biologic Reactivity Tests, In-Vivo: Pre-Gamma Irradiation Samples	USP <88>	Passed
Class VI Plastics - Biologic Reactivity Tests, In-Vivo: Post-Gamma Irradiation Samples	USP <88>	Passed
Elastomeric Closures for Injection	USP<381>	Passed
Total Organic Carbon Analysis	USP <643>	4.46 µg/ml
Physicochemical Tests for Plastics	USP <661>	Passed
Rubber Closures for Containers	EP 3.2.9	Passed
Extractable Data	Saint-Gobain Protocol	N/A

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C-Flex 072 Tubing Standard Size:

C-Flex® - 072 - Translucent Tubing Standard Size						
Part Numbers	Standard Coil Length, ft (m)	ID x OD x Wall (inch)	ID x OD x Wall (inch fractions)	ID x OD x Wall (millimeters)	Average Working Pressure (psi): 66°F (19°C)	
					C-Flex® 072	
					psi	bar
072-031-1	50' (15 m)	0.031 x 0.094 x 0.031	1/32 x 3/32 x 1/32	0.8 x 2.4 x 0.8	36	2.5
072-063-1	50' (15 m)	0.063 x 0.125 x 0.031	1/16 x 1/8 x 1/32	1.6 x 3.2 x 0.8	21	1.4
072-063-2	50' (15 m)	0.063 x 0.188 x 0.062	1/16 x 3/16 x 1/16	1.6 x 4.8 x 1.6	49	3.4
072-125-2	50' (15 m)	0.125 x 0.250 x 0.062	1/8 x 1/4 x 1/16	3.2 x 6.4 x 1.6	32	2.2
072-188-2	50' (15 m)	0.188 x 0.313 x 0.062	3/16 x 5/16 x 1/16	4.8 x 8.0 x 1.6	24	1.7
072-188-3	50' (15 m)	0.188 x 0.375 x 0.094	3/16 x 3/8 x 3/32	4.8 x 9.5 x 2.4	42	2.9
072-250-2	50' (15 m)	0.250 x 0.375 x 0.062	1/4 x 3/8 x 1/16	6.4 x 9.5 x 1.6	20	1.4
072-250-3	50' (15 m)	0.250 x 0.438 x 0.094	1/4 x 4/9 x 3/32	6.4 x 11.2 x 2.4	26	1.8
072-250-4	50' (15 m)	0.250 x 0.500 x 0.125	1/4 x 1/2 x 1/8	6.4 x 12.7 x 3.2	27	1.9
072-313-3	50' (15 m)	0.313 x 0.500 x 0.094	5/16 x 1/2 x 3/32	7.9 x 12.7 x 2.4	21	1.5
072-375-2	50' (15 m)	0.375 x 0.500 x 0.062	3/8 x 1/2 x 1/16	9.6 x 12.7 x 1.6	11	0.8
072-375-3	50' (15 m)	0.375 x 0.563 x 0.094	3/8 x 5/9 x 3/32	9.6 x 14.3 x 2.4	19	1.3
072-375-4	50' (15 m)	0.375 x 0.625 x 0.125	3/8 x 5/8 x 1/8	9.6 x 15.9 x 3.2	24	1.6
072-500-3	50' (15 m)	0.500 x 0.688 x 0.094	1/2 x 2/3 x 3/32	12.7 x 17.4 x 2.4	14	1
072-500-4	50' (15 m)	0.500 x 0.750 x 0.125	1/2 x 3/4 x 1/8	12.7 x 19.1 x 3.2	17	1.2
072-625-4	50' (15 m)	0.625 x 0.875 x 0.125	5/8 x 7/8 x 1/8	15.9 x 22.2 x 3.2	16	1.1
072-750-4	15' (4.5 m)	0.750 x 1.00 x 0.125	3/4 x 1 x 1/8	19.0 x 25.4 x 3.2	13	0.9
072-750-6	15' (4.5 m)	0.750 x 1.125 x 0.188	3/4 x 1 3/8 x 3/16	19.0 x 28.3 x 4.8	16	1.1
072-750-8	15' (4.5 m)	0.750 x 1.250 x 0.250	3/4 x 1 1/4 x 1/4	19.0 x 31.7 x 6.4	21	1.5
072-1000-6	15' (4.5 m)	1.00 x 1.375 x 0.188	1 x 1 3/8 x 3/16	25.4 x 34.9 x 4.8	13	0.9
072-1000-8	15' (4.5 m)	1.00 x 1.500 x 0.250	1 x 1 1/2 x 1/4	25.4 x 38.1 x 6.4	17	1.1

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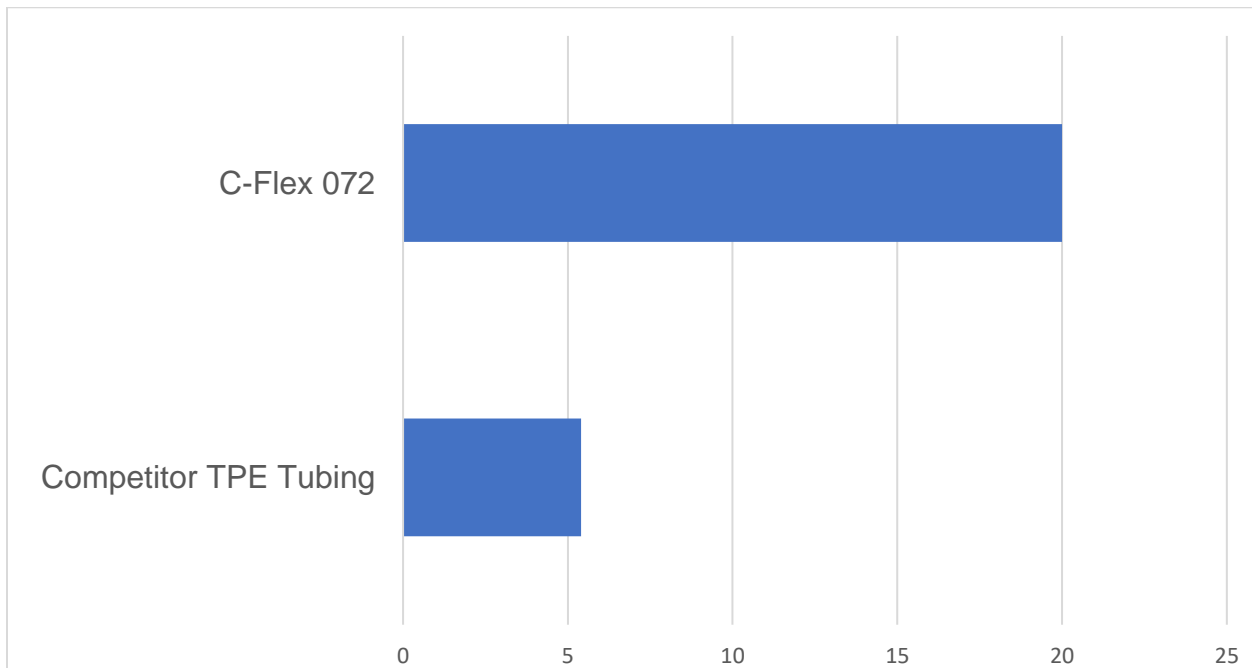


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Comparative Opaque TPE Peristaltic Pump Tubing Life:

The table below shows the average hours until rupture of 1/4" ID x 3/8" OD (6.5 mm x 9.5 mm) tubing having undergone gamma irradiation. Samples were pumped using a 3-roller pump head operating at 300 rpm with 10 psi back pressure, at room temperature.



The performance of tubing in peristaltic pumping applications is affected by the conditions of use and equipment utilized, along with size and all thickness of the tubing tested. The data above is presented for information only and should not be utilized for specification purposes.

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Ordering Guide



[1]	[2]
Inner Diameter [ID] Code	Wall Thickness Code
<ul style="list-style-type: none"> • 031: 0.031 inch or 1/32 inch • 063: 0.063 inch or 1/16 inch • 125: 0.125 inch or 1/8 inch • 188: 0.188 inch or 3/16 inch • 250: 0.250 inch or 1/4 inch • 313: 0.313 inch or 5/16 inch • 375: 0.375 inch or 3/8 inch • 500: 0.500 inch or 1/2 inch • 625: 0.625 inch or 5/8 inch • 750: 0.750 inch or 3/4 inch • 1000: 1.00 inch or 1 inch 	<ul style="list-style-type: none"> • 1: 0.031 inch or 1/32 inch • 2: 0.063 inch or 1/16 inch • 3: 0.094 inch or 3/32 inch • 4: 0.125 inch or 1/8 inch • 6: 0.188 inch or 3/16 inch • 8: 0.250 inch or 1/4 inch

Example:

072-125-2

C-Flex 072 - Thermoplastic Elastomer Tubing, ID 0.125 in X OD 0.250 in X Wall thickness 0.062 in, Average Working Pressure 32 PSI at 66°F (19°C), 50 Ft per Coil

Part Number

Description

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